

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number
WO 2005/008610 A1

(51) International Patent Classification⁷: **G08B 17/10**

(21) International Application Number:
PCT/AU2004/000954

(22) International Filing Date: 16 July 2004 (16.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003903703 18 July 2003 (18.07.2003) AU

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AI, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

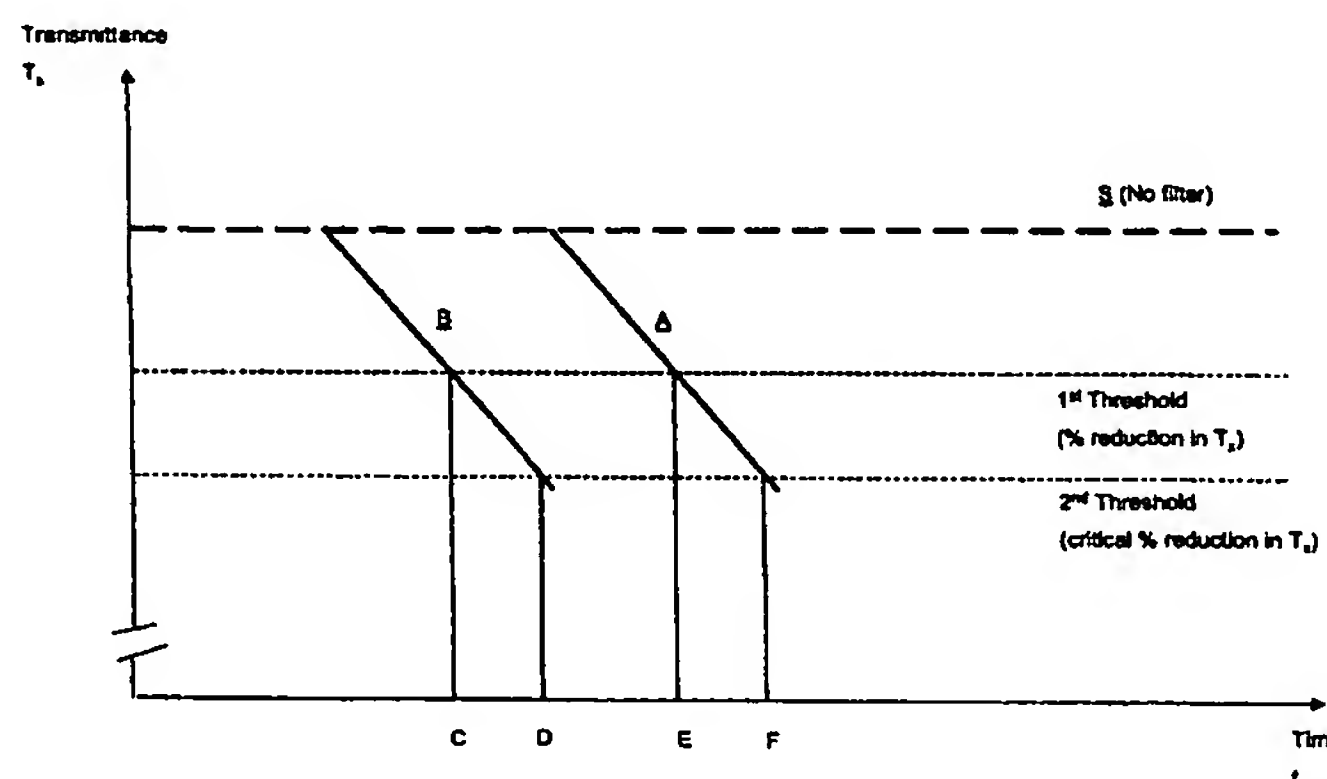
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **METHOD AND SYSTEM FOR A FILTER**



(57) Abstract: The present invention relates to a system for determining particle transmittance T_x of a filter for use with a particle detection system to provide a filter warning for aspirated particle detection systems by detecting a level of first particles having a size indicative of smoke particles and which pass through the detection system; determining an integrated smoke hours value by integrating the detected level of first particles over time; estimating the smoke particle transmittance T_x of the filter by applying a predetermined weighting operation to the integrated smoke hours value. An empirical measure of a filter's particle transmittance T_x , due to at least first particles having a size indicative of smoke particles may be achieved by way of integrating a level of such first particles passing through a particle detection system over time to determine the proportion of smoke particles arrested by a filter, "integrated smoke hours". The "integrated smoke hours" value is, generally, a measure of cumulative filter blockage over time by smoke like particles and is a measure of a given amount of ambient smoke detected and recorded by a smoke detector system and integrated over the time of exposure of the smoke detector system to the ambient smoke. Using this method it is not necessary to infer the actual "filter load" per-se or, the actual particle mass trapped in the filter.

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